

CB&I

Corporate Capabilities for Fukushima Daiichi and Fukushima Prefecture Remediation





- CB&I has been in Japan for more than 50 years.
- Many projects with Japanese companies in domestic and overseas.
- More than 1.0 Billions US\$ business with Japanese companies for last 10 years
- CB&I has many experience in working with Japanese companies, like:
 - Chiyoda
 - > JGC
 - **►** MHI
 - > Toshiba
 - > IHI
 - ➤ Mitsui & Company
 - Mitsubishi Corporation
 - Nippon Steel & Sumitomo Metal
- CB&I is familiar with Japanese culture and business circumstance.



- Focus on safety: 0.01 Lost Time Incidents in 2012
- 50,000 employees worldwide
- Nearly 125 years of experience and expertise in reliable solutions
- 70 years of nuclear energy engineering, procurement and construction
- Market Cap \$8.5 Billion (Nov. 2013)
- Decommissioning & Cleanup Figures
 - 15 reactor decommissionings including four large commercial nuclear plants dismantled
 - More than 6.8 million cubic meters of contaminated soil treated











CB&I History of Successful Nuclear D&D Projects

Decommissioning is a CB&I Core Competency

- CB&I's legacy companies have been industry leaders in the nuclear decommissioning market for the past 20 years
- We have successfully participated in the D&D of hundreds of buildings, structures and facilities
- CB&I is the largest shipper of low level radioactive (LLW) and hazardous waste in the US.
- Over the past 16 years we have shipped more than 60,000 railcars and intermodal containers of Low Level Waste
- We have obtained regulatory clearance and clean release of over 560 final site survey units in accordance with the MARSSIM requirements
- At Fukushima CB&I designed and deployed a Cesium water treatment system that has trapped 370,000 TBq of activity to be stored





Large Scale Environmental Clean Up Example

Former uranium processing site with extensive soil, water and contaminated structures



Today, a wildlife refuge with long term monitoring systems and closure of all waste pathways.





Nuclear Fuel Storage and Nuclear Plant Decommissioning

CB&l's experience includes more than one dozen nuclear plant decommissioning and demolition projects that will serve as a basis for remediation of the Fukushima Daiichi site.



Consolidation of highly irradiated core components into storage containers.

Transport of spent fuel & core internals to storage



Development of many spent fuel storage facilities in the US.





Final demolition of all reactor structures and removal of all reactor components.





Rapid Development of Fukushima Technologies

Leakage of Cesium contaminated water to the Pacific Ocean was prevented in good part by a water processing system that CB&I's nuclear engineers developed with their Japanese partners and delivered in less than 90 days.

The SARRY system is an example of US-Japan collaboration.

Design and fabrication started in the US, but quickly shifted to Japan where IHI finished the storage vessels as part of joint Shaw-Toshiba-IHI project. SARRY is responsible to this day for over 75% of the Cesium removal at the site.





Why CB&I as a Partner for Japan Work

- Safety is a core value
- Fully integrated capabilities and flexible business model to work with local companies to meet requirements for local hire and performance
- Long-term stakeholder relationship and knowledge

- Worldwide experience & expertise for decommissioning and remediation
- Japanese experience and knowledge
- Risk management processes and tools





